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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/776,176	02/12/2004	Michel Couture	16626-2us PTN/df	3079
7590 11/02/2005 MICHEL COUTURE 360 TERRASSE ROBILLARD SAINT-ANDRE'-D'ARGENTEUIL QUEBEC, JOV 1X0 CANADA			EXAMINER MILLER, JONATHAN R	
			ART UNIT 3653	PAPER NUMBER

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/776,176

Applicant(s)

COUTURE, MICHEL

Examiner

Jonathan R. Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/18/05.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 16-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20050729, 20040422, 20040627
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7, 10 and 12 – 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Winkler. The reference discloses a dilution treatment chamber defining an upstanding channel (c) having a particle inlet at a top end (b), and a first-particle group outlet (g) at a bottom end, the channel being adapted to receive a particle stream at the particle inlet such that the particle stream falls toward the first-particle-group outlet; a transfer casing (f) adjacent to the dilution treatment chamber and defining a transfer chamber adapted to receive a second particle group; at least one second-particle-group outlet (through element a) laterally positioned with respect to the channel of the dilution treatment chamber and allowing fluid communication between the transfer chamber and the channel; a distributor (e) in the channel between the particle inlet and the at least one second-particle-group outlet, for breaking down the particle stream and distributing the particle stream over a surface area of the channel; and at least one fluid flow aperture (d) in the dilution treatment chamber and below the distributor, adapted to create a fluid flow between the transfer chamber and the channel so as to entrain a second particle group from the channel through the second-particle-group outlet to the transfer chamber with a first particle group remaining in the channel for exiting through the first-particle-group outlet, the apparatus being adapted to be connected to a positive pressure source (h) to create the fluid flow.

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3. With regards to claim 2, the reference further discloses a pretreatment module (unlabeled element directly beneath hopper in Fig. 2) at the particle inlet of the dilution treatment chamber, to guide the particle stream and to cause a horizontal dilution of the particle stream.

4. With regards to claim 3, the reference further discloses the pretreatment module has at least one slide portion sloping downwardly toward the particle inlet of the dilution treatment chamber for guiding and accelerating a particle stream to the dilution treatment chamber, and a deflecting surface between the slide and the particle inlet for breaking down the particle stream and for imparting the horizontal dilution to the particle stream (Fig. 2).

5. With regards to claim 4, the reference further discloses at least one of the fluid flow apertures is used to inject an additive into the first particle group. Examiner contends that the apparatus inherently injects an additive carried in the fluid flow. What constitutes an additive?

6. With regards to claim 5, the reference further discloses the at least one second-particle-group outlet (a) and the at least one fluid flow aperture are horizontally aligned and on opposite sides of the channel of the dilution treatment chamber (Fig. 2).

7. With regards to claim 6, the reference further discloses a nozzle (d) adapted to be connected to the positive pressure source is connected to the fluid flow aperture so as to inject fluid in the channel to create the fluid flow between the channel and the transfer chamber.

8. With regards to claim 7, the reference further discloses the distributor (e) has an aperture laterally positioned in the channel, and a fluid-injection nozzle (d) adapted to be connected to the positive pressure source and connected to the dilution aperture for injecting fluid in the channel of the dilution treatment chamber, for breaking down the particle stream and distributing the particle stream over a surface area of the channel.

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9. With regards to claim 10, the reference further discloses the transfer casing has an outlet at a bottom end thereof, for collecting the second particle group received in the transfer casing (Fig. 2).

10. With regards to claim 12, the reference further discloses a method for separating a particle stream into particle groups, comprising the steps of: i) vertically diluting the particle stream by directing the particle stream to a falling condition within a channel; ii) breaking down the particle stream by subjecting the particle stream to lateral forces so as to distribute the particle stream over a surface area of the channel; iii) entraining a particle group away from a remainder of the particle stream by creating a fluid flow of predetermined magnitude across the particle stream in said falling condition; and iv) collecting the particle group and the remainder of the particle stream at separate locations (page 1, lines 1+).

11. With regards to claim 13, the reference further discloses a step of horizontally diluting the particle stream by providing a horizontal velocity to the particle stream prior to step i). (unlabeled element directly beneath hopper in Fig. 2)

12. With regards to claim 14, the reference further discloses step ii) includes injecting a fluid into the particle stream to break down said mass and distribute the particle stream over the surface area of the channel (page 1, lines 1+).

13. Claims 1 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Eaches. The reference discloses a dilution treatment chamber defining an upstanding channel having a particle inlet at a top end (A'), and a first-particle group outlet (H) at a bottom end, the channel being adapted to receive a particle stream at the particle inlet such that the particle stream falls toward the first-particle-group outlet; a transfer casing (unlabeled area beyond openings (E))

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adjacent to the dilution treatment chamber and defining a transfer chamber adapted to receive a second particle group; at least one second-particle-group outlet (E) laterally positioned with respect to the channel of the dilution treatment chamber and allowing fluid communication between the transfer chamber and the channel; a distributor (D) in the channel between the particle inlet and the at least one second-particle-group outlet, for breaking down the particle stream and distributing the particle stream over a surface area of the channel; and at least one fluid flow aperture (unlabeled area between elements G and C') in the dilution treatment chamber and below the distributor, adapted to create a fluid flow between the transfer chamber and the channel so as to entrain a second particle group from the channel through the second-particle-group outlet to the transfer chamber with a first particle group remaining in the channel for exiting through the first-particle-group outlet, the apparatus being adapted to be connected to a positive pressure source (H) to create the fluid flow.

14. With regards to claim 8, the reference further discloses the distributor has one of an impeller, an ultrasound system and a reciprocating strainer (B).

15. Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Hukki. The reference discloses a dilution treatment chamber defining an upstanding channel (5) having a particle inlet (17) at a top end, and a first-particle group outlet (27) at a bottom end, the channel being adapted to receive a particle stream at the particle inlet such that the particle stream falls toward the first-particle-group outlet; a transfer casing adjacent to the dilution treatment chamber and defining a transfer chamber (23) adapted to receive a second particle group; at least one second-particle-group outlet (4) laterally positioned with respect to the channel of the dilution treatment chamber and allowing fluid communication between the transfer chamber and the

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channel; a distributor (21) in the channel between the particle inlet and the at least one second-particle-group outlet, for breaking down the particle stream and distributing the particle stream over a surface area of the channel; and at least one fluid flow aperture (3) in the dilution treatment chamber and below the distributor, adapted to create a fluid flow between the transfer chamber and the channel so as to entrain a second particle group from the channel through the second-particle-group outlet to the transfer chamber with a first particle group remaining in the channel for exiting through the first-particle-group outlet, the apparatus being adapted to be connected to a positive pressure source (30) to create the fluid flow.

16. With regards to claim 9, the reference further discloses a recuperation tray (14), positioned out of the channel in the transfer chamber and below the second-particle-group outlet for collecting particles of the first particle group deflected or forced out of the channel by the flow of fluid, and for returning the particles of the first particle group to a remainder of the first particle group.

17. Claims 1, 11, 12 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Parkinson. The reference discloses a dilution treatment chamber defining an upstanding channel having a particle inlet (10) at a top end, and a first-particle group outlet (10) at a bottom end, the channel being adapted to receive a particle stream at the particle inlet such that the particle stream falls toward the first-particle-group outlet; a transfer casing adjacent to the dilution treatment chamber and defining a transfer chamber (6) adapted to receive a second particle group; at least one second-particle-group outlet (areas between elements 13 and 11) laterally positioned with respect to the channel of the dilution treatment chamber and allowing fluid communication between the transfer chamber and the channel; a distributor (1) in the channel

between the particle inlet and the at least one second-particle-group outlet, for breaking down the particle stream and distributing the particle stream over a surface area of the channel; and at least one fluid flow aperture (5) in the dilution treatment chamber and below the distributor, adapted to create a fluid flow between the transfer chamber and the channel so as to entrain a second particle group from the channel through the second-particle-group outlet to the transfer chamber with a first particle group remaining in the channel for exiting through the first-particle-group outlet, the apparatus being adapted to be connected to a positive pressure source (3) to create the fluid flow.

18. With regards to claim 11, the reference further discloses the transfer chamber of the transfer casing is segmented into laterally adjacent upstanding receptacles (18, 19 20) to further separate the second particle group according to the distance over which the particles of the second particle group are entrained by the flow of fluid.

19. With regards to claim 12, the reference further discloses a method for separating a particle stream into particle groups, comprising the steps of: i) vertically diluting the particle stream by directing the particle stream to a falling condition within a channel; ii) breaking down the particle stream by subjecting the particle stream to lateral forces so as to distribute the particle stream over a surface area of the channel; iii) entraining a particle group away from a remainder of the particle stream by creating a fluid flow of predetermined magnitude across the particle stream in said falling condition; and iv) collecting the particle group and the remainder of the particle stream at separate locations (page 1, lines 1+).

20. With regards to claim 15, the reference further discloses step iv) includes collecting the particle group into at least two particle subgroups by providing at least two collecting locations

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for the particle group, so as to collect particles in the subgroups according to a distance of entrainment of the particles (Fig. 1)

Claim Rejections - 35 USC § 112

21. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

22. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

23. Claim 14 recites the limitation "said mass" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Conclusion

24. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan R. Miller whose telephone number is (571) 272-6940. The examiner can normally be reached on M-F: 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald P. Walsh can be reached on (571) 272-6944. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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